8·16

The Bournemouth and Poole Atari User Group's Newsletter

ATARI

BAPAUG

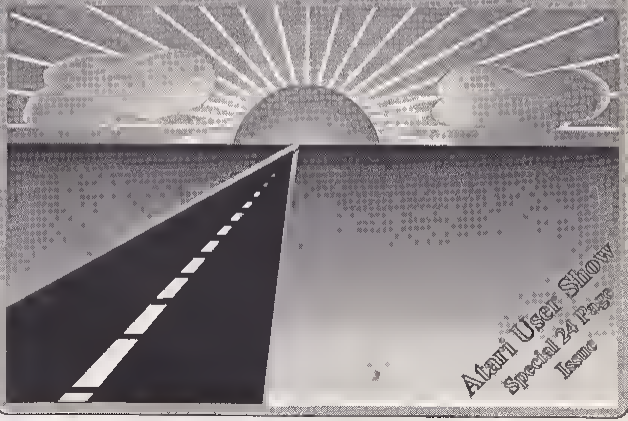
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Introduction To Turbo Basic

NQO to DEGAS Convertor

+

Software Reviews and the Latest News



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The Bournemouth and Poole Atari User Group (BaPAUG) is a member of the Association of Atari User Groups (AAUG).

The opinions expressed within 8:16 are those of the authors and are not necessarily held by the BaPAUG.

The BaPAUG is an non profit making organisation and no members make money from club activities.

Contents

Programs

NQO to Degas Converter 14
Convert those Defender Of The Crown pictures to Degas format using this handy routine written in GFA Basic. You could even modify the pictures using Degas and then load them back onto the program disc.

50 - 60 - 50 22
Switch your TV sync between 50 and 60 Hz

Special Features

One Man And His Hard Disk 4
The trials and tribulations behind the desire for a cheap hard disk

Erasable Optical Disk 5
Details of a new storage media developed by 3M.

Introduction To Turbo Basic 8
Information about the new commands and features found within Turbo Basic, along with sample programs.

Inside Turbo Basic 18
Details about Turbo Basic tokenisation.

Reviews

MicroLeague Wrestling 17
American wrestling brought to life on your ST along with all the showbiz mannerisms.

VCS Reviews 13
Pressure Cooker & Ghosthunters

Winter Games 6
Could you off jump further than Eddie, or wind faster than Graham?

8-bit Reviews 7
Mercenary, Terrormolds & Mirax Force.

Regular Features

BaPAUG News 12
Upto date news for BaPAUG members.

Info 22
The Programs / Subscriptions / Subscription Offer / Commercial Advertisement

Notice Board 3
All the latest news pieced up for you to read.

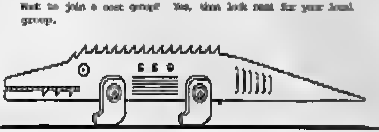
Product Update 20
News on the latest add-on devices, books and accessories.

PD Documentation 13
Laser printed PD documentation for all readers at a very reasonable cost

Software Roundup 21
News on the latest software releases.

The ST Explored Part 2 28
The second part at our look at the internal workings of the ST. this issue we fill the gaps left out of the DISKUS ST article.

User Group File 22
Want to join a user group? Yes, then look next for your local group.



Notice Board

Price Increases

Atari have announced a £100 price increase for the ST range of computers, while Amstrad have announced a 12.5% increase for the PC and PCW range. Both companies blame the shortage of D-RAM chips used by their machines. The Atari price increase took place on March the 14th, though you may still be able to buy machines at the old price.

Magazine News

Firstly, ST Update is to be re-launched with the first issue having a cover date of April 1988. It will cost £1.50 per issue or £16 for a year's subscription. According to Focus Magazines, ST Update will be packed with exciting competitions, games reviews, programming, graphic features and many special surprises. Well, we'll just have to wait and see.

The news about ANALOG and ST-LOG doesn't appear to be as bad as first expected. ANALOG Computing who produce both the magazines has been brought out by Larry Flynt Publishing. Both magazines should be back in circulation by now.

Goliner Publishing who produce the excellent ST World are to introduce a second magazine called ST Action. A preview issue was included within issue 25 of ST World, though the new magazine should be stand alone by April.

Ariolasoft U.K. Closes

German software publisher Ariolasoft is to close down its UK operation. Will Carmichael has stated that all the labels are for sale. Ariolasoft used to be the publisher for Electronic Arts and introduced many Atari 8-bit uses to the game Archon, which was one of its best sellers.

New Men At Microprose

Microprose Software Limited has recently announced the appointment of Adrian Parr as Financial Director and Tony Bickley as Software Development Manager.

Adrian Parr joined Microprose in December after leaving the position of Group Financial Director at Marshall Cavendish, which he held for eight years. The decision to recruit Adrian Parr was taken by Microprose Software's Managing Director Stewart Bell. Parr will be responsible for overseeing the company's whole financial operation covering the UK, Europe, Asia and Australia, rationalising existing business and helping to ensure maximum returns from future ventures.

To coincide with a new recruitment drive aimed at the areas of European talent, Tony Bickley has been appointed Software Development Manager to spear head the scheme from the companies offices in Tetbury. Bickley has previously worked with Thorn EMI, ASK, Melbourne House and Firebird Licensees. He will be responsible for overseeing all development work in the UK, and liaising with Microprose development teams all over the world.

Atari Sales Record

Atari sales for 1987 were a record $363 million, an increase of 41 percent over the previous year. The computing side contributed 51 percent, with the video games systems contributing 23 percent. With the sales from the Federated Group which Atari purchased last year, net sales total $493 million, an increase of 91 percent.

ONE MAN AND HIS HARD DISK

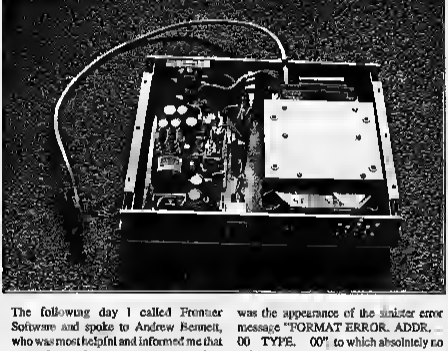
(By Neil Hordler)

Back in my days as a B.B.C. micro owner, long before I started to think about buying an ST, I was fortunate enough to obtain a Seagate ST225N 20Mb Winchester disk drive second hand from an amateur radio rally. I paid the grand sum of £25 for it (yes really!), buying it in the hope that it could somehow be connected to the B.B.C. At the time this proved to be unfeasible so the drive was put away in the back of a cupboard and more or less forgotten.

As time passed I started to find certain limitations of the B.B.C. micro, so I began to look around at the newer computers that had come onto the market. A sixteen bit machine was deemed essential and I wanted to learn about the 68000 microprocessor so there were really only two contenders for my money! Being of sound mind and judgement, I of course decided upon an ST, although it would be some while before I could afford it.

Having made up my mind to eventually purchase an ST I started to collect as much information as I could about the machine. One day, I discovered that it had a hard disk port. Several questions immediately sprang to mind—what type of hard disk could be connected to it? Would any extra interface be needed? Was the necessary software resident in the computer? And most importantly of all, would MY drive work? I dug the drive from its resting place and decided that I would need to find out as much as I could about it.

My search for data on the drive began and at this point a run of quite good luck started. Firstly, RS Components (a well known supplier of components in the electronics industry) sent me their latest catalogue, which just happened to have the ST225N drive advertised in it as a new stock line. The technical manuals were also available, so these were hastily bought and studied. Having found that the drive had a Small Computer Systems Interface (S C S I), I looked at various advertisements to see if an Atari hard disk port to S C S.I. converter was available. This was where I had my second piece of luck. I was idly flicking through a copy of Micro Computer Mart magazine when one advertisement caught my eye. It read "WANTED-Details on how to connect a S C S.I hard disk drive to an Atari 520ST. Phase. . . . . ". I telephoned the number, in the hope that someone else had already replied and that the appropriate information could be passed on to me. The gentleman told me that Frontier Software in Harrogate could supply exactly what was required along with all of the necessary software. Bingo! At last I felt that I was in with a chance of making my drive work with an Atari.



The following day I called Frontier Software and spoke to Andrew Bennett, who was most helpful and informed me that a complete package containing an interface board software and instructions was available and would cost £80. I ordered the items immediately and was pleasantly surprised when they arrived the next morning. Upon opening the parcel it became apparent that the interface board and software were the same as that supplied with the Supra range of commercial drives. I was pleased by this fact, as I would be using proven software which would (hopefully!) be well supported should I have any problems.

Later that day I arrived home from work and telephoned a friend of mine to ask if I could borrow his 520ST. He said that I could, and turned up with it under his arm a short time later. We connected the drive, interface card and ST together, and hooked up a spare B.B.C power supply unit to the drive. We held our breath and switched on. Miraculously nothing exploded and the drive ran up to speed, so we hurriedly loaded the drive formatting program. After setting up the drive and controller parameters, we clicked the FORMAT box and waited. The drive activity light came on, and the drive started to make satisfying head stepping noises. At this point I was feeling really pleased too pleased, I suppose! The next thing that happened was the appearance of the sinister error message "FORMAT ERROR. ADDR. — 00 TYPE. 00" to which absolutely no reference could be found in the software documentation. After several re-tries at the formatting process, with identical results, I decided to contact Frontier Software the next day to enquire about the exact meaning of the mysterious error message. Slightly disheartened, I switched everything off and my friend left (thankfully leaving his ST behind!)

The following morning, I could not resist the temptation to have just ONE more try at formatting the drive, before making my telephone call. I loaded the software and clicked FORMAT . . . expecting the error message to appear again. However I received quite a shock when the message "FORMAT COMPLETE" was actually displayed! Stunned by this, I sat down and stared at the screen. Just then, I heard the drive speed start to fluctuate. Careful investigation revealed that one of the

contacts in the drive D.C. power connector was just loose enough to cause intermittent failure of the +12V supply to the drive motor. I replaced the connector with a new one and tried the format program again several times over to convince myself that I really had found and cured the problem. No more error messages appeared, so I went ahead and installed the hard disk self-boot program along with a number of others. A few tests later and I was certain that the drive was working perfectly. Incidentally, it was only a few days after these experiments that the D.I.Y. hard disk article was published in ST World magazine!

Over the next two weeks I bought another power supply (as the B.B.C. power unit was not fully rated to supply the drive motor start-up current), a smart Vero 'Tonal Access' case, a fan and various other parts, and built the drive up as a stand-alone unit (see photograph). I did have a problem with the new power supply, due to a funny combination of drive and P.S.U. characteristics, but this was resolved by swapping my P.S.U. for one that another friend had in his junk box. The completed unit was then thoroughly tested, and I found myself the proud owner of a hard disk drive. The only remaining problem was that I still did not actually own an ST to connect the drive to!!! This lack of a computer was finally solved at the Atari User Christmas Show, where I bought a 520STFM.

Since finishing my unit, I have discovered a few useful (cheap!) sources of drives and power supplies, and will gladly pass the information on to anyone who gets in touch with me via 8:16.

NEXT ISSUE

Star Chart for the Rebel Universe

+

8-bit Mouse Controller

+

The Price of Advertising - A Survey

+

Turbo Basic De-Tokeniser

Erasable Optical Disk

3M, the manufacturer of magnetic tape, data recording products, photographic film and optical videodiscs have just announced a breakthrough in data storage - the first erasable optical disk.

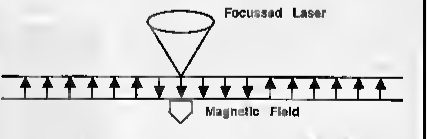
The disk is based upon magneto-optic technology which provides the erasability of magnetic media and the high density of optical storage. The disk is made with a special light sensitive material and a layer of magnetic material. During recording, spots on this layer are heated by a focused laser beam. Simultaneously a magnetic field is applied, changing the direction of magnetization at these spots. In this way, data is encoded. The magnetized area will retain its new state, at room temperature, even if a much larger external magnetic field is applied.

A lower-power laser beam is used to read the disk, detecting the changes in magnetization. Data is erased or re-written by again applying the higher-power laser beam and magnetic field, switching the magnetization back to its original direction.

Depending upon the drive, the 3M erasable optical disc can store between 300 and 500 megabytes of data. This is equivalent to about 700 floppy disks.

Beta test units are available now, in small quantities, there currently being only two units in this country. It is expected that erasable optical disks, of this type will be available in commercial quantities within the next three to five years. The first disks will be five and a quarter inches in diameter, made from [illegible] (plastic) and store between 250 - 300 megabytes per side. They will not be identical in operation to conventional magnetic media thus requiring special driver software. For example, the first disks will not be able to write, erase and rewrite on a bit by bit basis; the first generation magneto-optic drives will have to carry out an erase operation on a sector by sector basis, before overwriting existing data.

The first users of these disks will most probably be the large Government bodies and companies that require mass storage for archiving. The new users will start to use the system when the price demand curves meet and when the disks behave more like current floppies. This is likely to happen within ten years.



This diagram shows how laser heating combines with the application of a magnetic field to change the polarity of spots on the magnetised layer.

Winter Games

(Epyx – £14.95 VCS Cartridge)

Reviewed by Thomas Holzer

Winter Games from the power company Epyx for the Atari? Yes, but only on the ST and ... wait for it, for the VCS 2600. I just could not believe it. Epyx releasing Summer and Winter Games for the VCS. Well, I can say they done a brilliant super job. You think I overpraise it a bit? Yeah, alright I'm just an old fashioned VCS fan.

But now on to the game itself. It is a 16k cartridge and uses bank-switching in certain parts. The graphics and animations are very clear and detailed, also the scrolling is again perfect like you would expect for any Atari machine. You could say its a masterpiece of programming. The game begins as the title screen appears. There is also the typically Olympic theme music. From the title screen you will move to the so called country select menu by pressing *fire* or waiting for the music to end. The country select menu contains a list of eight countries, these being U.S.A., U.S.S.R., U.K., Japan, Canada, France, Norway and Sweden. For some reason there is no Austria or Switzerland in these Winter Games. You highlight the country of your choice by moving the joystick up and/or down and by pressing *fire* the choice is done. You will have to confirm your choice by selecting the 'done' option once all of the players have chosen their country. You will then move on to your first event. The events are announced on the screen by showing the names of the competing countries and the event name. Press *fire* to enter the event, press *fire* again to start the event.

Event 1 - Slalom

In slalom, the object is to make the best time down the course while skiing through the gates marked by a pair of flags. The fire button sets your skier on his/her way and you control by moving the joystick left or right. By the way, this game is not a joystick killer like the old Decathlon from Activision. Avoid hitting any object or a person on your way down the slope or penalty seconds are added to your time when you complete the run.

Event 2 - Bobsled

In the two-man bobsled event, you will have to finish in record time. You press *fire* to start. Try to complete the winding course very quickly and keep the sled under control by moving the joystick left or right to control the bobsled direction. You gain speed by moving the stick up and down but watch out, this game can be fast, making the turns a real challenge. Each team is allowed three tries to finish.

Event 3 - Ski Jump.

This challenging event demands your fullest concentration, so it says in the manual. They are not kidding. When you see the jumper at the gate, you press the *fire* button and he will begin his run down. When he passes the yellow flag, press *fire* again to launch the little man. You have to get your timing right, otherwise ..!*@! There is a split screen in this event, showing the jumpers position and the hill below. During flight you will have a lot to do to keep the jumper in a good, healthy position and to land him safely. Again, here you will have three tries and the best distance jumped will appear on the screen and win the event.

Event 4 - Biathlon.

This event looks a bit like the the slalom event, you have to ski downhill and move the joystick in the right rhythm. When you finish the skiing course, a shooting range replaces the ski slope. You sight your target and press *fire* to shoot. For every target missed there is a five second penalty. You then have to ski up the course, shoot again, ski down and finally shoot the last targets. The competitor with the fewest number of misses wins the event.

Event 5 - Speed Skating.

In this event, the first skater to reach the finish line will get the best score. At the start you will have the ready / set / go sequence and then you wiggle the stick like mad. This event is the weakest of the seven.

Event 6 - Hot Dog

Here we go, this is my favourite. It is a ski acrobatics event with the jumpers competing one at a time. You may have see this demonstrated at the recent Winter Olympics. You have to race down the slope like in a ski jump but instead of going for distance after you leave the ramp, you must perform as many crazy tricks as possible in the time allowed. Seeing is believing: the jumper looks so funny up in the air doing his tricks. I won't tell you too much as this event is worth the cost of the whole cartridge. Just don't try and land on your head by doing a half flip daffy upside down.

Event 7 - Luge

Luge is just like the bobsled event with the only difference being that you won't have a partner to help steer you down the chute. You will use the same left / right motions on the joystick as in bobsled to choose the direction of your turn and again, you will have three tries to make it quickly and safely down the chute.

Well, all the good things come to an end and after each of the events, the countries of the top three competitors are listed in the order they placed. The gold medal winner will appear at the top of the screen. The points are also totalled after all events have been completed and the player with the most points is honoured as the grand champion. The ceremony takes place after the award ceremony for the final event. But I will let you find this out for yourself, just go and buy this brilliant game. Well done, Epyx.

Mercenary

(Novagen - £12.95 Disk, £9.95 - Cassette)

Reviewed by Mark Cocker

(With Mercenary winning the 8-bit category of the 8uPAUG Survey in the last issue of 8 t 6, I've dug up the following review which was produced when the game first became available - Editor)

The newly released game from Novagen gives you a chance to play a soldier of fortune. Your intergalactic craft crashes on the planet of Targ. The formerly peaceful inhabitants of Targ, the Palyars, are now at war with the Alien race of robots, the Mechanoids.

Your ultimate goal is to "Escape from Targ"--but how? Should you stay out of the war, join either side or try and be friends with both? Or just blast everything in sight with a stolen craft?

The game starts on the surface of Targ. To move about, you can walk (good hey!!) or travel in ground based or flying craft. On the surface is the city which is surrounded by wasteland. The city is made up of 3D wire framed structures and roads. Some objects like the radar tower are nicely animated.

To help you on your mission is Benson, "an almost human PC". He monitors and reports on situations and occasionally asks you questions. I won't tell you any more as finding out is all part of the fun.

Mercenary offers an overall high quality adventure / arcade game. The status screen is good - nicely laid out and colourful. The 3D drawing is fast and smooth with plenty of detail and the bridges give that extra touch. One point I find frustrating is the length of some of the underground rooms - they take so long to travel down. This also plays havoc in mapping areas out.

The Atari disk and tape contain two versions, a 48K version for the 400 and 800 and a 64K version for the 800XL and 130XE machines. It's nice to see Novagen making quality games for the old Ataris. The Commodore version is nearly exactly the same (aren't Commodore lucky !!).

If you complete Mercenary it will give you beneficial entry into Mercenary II so save it!

Just brought the best game this century?

Want to tell us about it?

Then send a review to 8:16.

Transmuter

(Code Masters - £1.99 Cassette)

Reviewed by Thomas Holzer.

Transmuter is another shoot 'em up game but with a difference. It is a "scramble type of game" where you fly through various caverns and shoot everything coming towards you. The deeper you manage to fly into the cavern the more you can "transmute" and gain more speed, extra lasers and other items. At the end of the cavern you must destroy the mothership to reach the next level.

In between the levels you get a bonus screen where various enemy ships come flying towards you and you must try your best to shoot them. Good animation here, the ships not only fly in a straight line, but they move up and down and turn around and follow you and much more clever stuff.

The graphics are Atari level+, that means very good, the screen scrolls smoothly and absolutely flicker free. The sound is below average, no background sound at all in the first level, just the bang bang when you shoot. The title music is very good, anyway. So far people who like to play Nemesis on the Atari this game is a must, and for £1.99 you can't go wrong. One minor fault for some people might be the speed of the game, which is very very slow (ah! something I may be able to play. Ed.).

Mirax Force

(Tynesoft - £9.99 Disk)

Reviewed by Thomas Holzer

I brought the game from my local computer shop, went home and booted it up, heard very impressive speech "the battle begins", saw the title screen and then the bloody game crashed! So I went to take it back to the store and off course there was no second copy available. Well, now a few weeks later I've brought the game again and this time it worked perfectly, so onwards...

This game is another space shoot 'em up (oh no, are another one!) where you fly above the mothership and shoot everything coming towards you. Very impressive is the speech in the beginning and just before the game starts "mirax force" and when the game ends "game over". The credit for the speech goes to "2-bit software". I hope we here more of that in the future. There is not much to tell about the game itself. You just fly and shoot and after a while the mothership reactor starts to blink, which you then shoot to go on to the next level. What makes the game itself good is the superb quality of the work. The game is fast, you could say arcade fast, smooth scrolling, absolutely no flicker, very detailed graphics and good use of sound effects.

Mirax Force is just another shoot 'em up but one of the quality kind. Just go for it and blast your way through the universe.

An Introduction To Turbo Basic

By Colin Hunt

What is Turbo Basic ?

Turbo Basic is a disc based basic interpreter for the XL/XE range of Atari 8-bit computers originally published in the German magazine Happy Computer. It's 100% compatible with Atari Basic while offering a 3x speed improvement, several new commands and more free memory. Sounds to good to be true? So how much are you expected to pay for this new language, £20? £40? £60? Wrong, it cost the equivalent of one floppy disk. Turbo Basic is Public Domain and in my opinion should be used by every Atari XL/XE 8-bit user. If you haven't got this superb basic you can obtain it from several public domain libraries including Page 6 Monitor (The U.K. Atari Computer Owners Club), Nugget (Norwich Atari User Group) as well as from 8·16 (see subscripuon offer on page 22).

The following sections describe the additional commands found within Turbo Basic and changes to the standard commands. The programming examples given are very simple but adequately portray the point. If you want more information about the 'inside' of Turbo Basic have a look at the accompanying article 'Inside Turbo Basic' within this issue of 8·16

Program Structure and Control.

The following commands have been added (or modified) to improve the structuring of basic programs :

REPEAT .. UNTIL <c>	Control structure for REPEAT - UNTIL loop which terminates when condition <c> met.
WHILE <c> .. WEND	Control structure for WHILE - WEND loop which terminates when condition <c> met.
IF <c> .. ELSE .. ENDIF	If condition <c> met execute first group of statements ELSE execute second group of statements
DO - LOOP	Infinite DO - LOOP
EXIT	Exit a DO - LOOP loop.
PROC .. ENDPROC	Start and End definition for a procedure
EXEC <name>	Execute procedure defined by <name>
# name	Assigns the current line number to the label name.
GO# <label>	Form of GOTO command that passes control to line marked by label
POP	Now POPs the runtime stack for all four types of loops.
ON <c> EXEC <proc1>,<proc2>, ..	Variation of ON .GOSUB
ON <c> GO# <label1>,<label2>, ..	Variation of ON.. GOTO.
PAUSE n	Delay program execution for n/50 seconds.
*L	Turn line indent on
*L-	Turn line indent off.

In order to improve the structure of your program you should forget the commands GOTO and GOSUB. The latter can be directly replaced by the use of procedures which can have meaningful names. The replacement of the GOTO command is a little bit trickier. Have a look at programs 1 and 2, the first is an extract from a program from another magazine and uses the GOTO command freely. The second is the same routine but with all the GOTO's removed. Which routine do you find the easiest to follow?

```
100 REM Program No. 1
110 REM Example - Do Not Type In
120 REM
130 REM F1$ is the input file name.
140 REM F2$ is the output file name.
150 REM
160 IF F2$="" OR F2$="C " THEN 180
170 OPEN #2,8,0,F2$:GOTO 200
180 IF F2$="" THEN 200
190 CSZ=FRE(0)-128 :DIM CAS$(CSZ)
200 OPEN #1,4,0,F1$
210 REM The program continues . .
```

```
100 REM Program No  2
110 REM Example - Do Not Type In.
120 REM
130 REM The structured version of
140 REM Program 1 using Turbo Basic
150 ------------------------------
160 IF F2$<>""
170   IF F2$="C."
180     FREE_MEMORY=FRE(0)-128
190     DIM CASS_BUT$(FREE_MEMORY)
200   ELSE
210     OPEN #2,8,0,40,F2$
220   ENDIF
230 ENDIF
240 OPEN #1,4,0,F1$
250 REM The Program Continues ..
```

Program 2 also shows the correct structure for the multi-line IF..ELSE..ENDIF, though the following structures will also work.

```
100 IF <c>.<statement1>:ELSE:<statement2>:ENDIF

100 IF <c>
110 ELSE
120   <statement>
130 ENDIF

100 IF <c>
110   <statement_1>
120   .
130   <statement_n>
140 ENDIF
```

The first shows a single line IF..ELSE..ENDIF condition with the

thirdl showing a multi-line IF statement. The second example executes nothing if the condition is true while executing the statement if the condition is false. This could be replaced by

```
100 IF NOT(<x>)
110   <statement>
120 ENDIF
```

Memory Management.

In order to ease the control and use of memory within your programs the following commands and functions have been added

DPOKE m,v	Poke locations m,m+1 with 2-byte integer 'v'
n=DPEEK m,v	Double peek of locations m,m+1 with the result store in n
MOVE m m1,m2	Block transfer Moves 'm2' bytes from starting position 'm' to new starting position m1'
-MOVE m,m1,m2	Same as MOVE but copies starting with the last byte of the block.
DIM a(n),a$(n)	Now automatically assigns a value of zero to all elements of a numeric array being dimensioned and null characters to all elements of a string. The LENgth is still variable and initially zero

The addition of the DPEEK and DPOKE commands within Turbo Basic make the setting and reading of system address tables much simpler by replacing statements such as SCRNMEM=PEEK(88)+256*PEEK(89) with SCREEN_MEMORY=DPEEK(88). This is very useful if, like me, you sometimes put the 256* but onto the wrong PEEK statement.

The MOVE and -MOVE commands can be used for moving character set information from ROM to RAM, making screen copies and for moving player missile data. Issue 32 of Page 6 has a very good demo by Roy Goring showing the principle of the latter

System I/O.

This section covers all the I/O systems within the ATARI, this including disc, cassette, screen and keyboard. The additional commands and functions available are

BLOAD "D:name"	Binary loads file named - DOS option L with /N
BGET #n,adr,len	Block get.
BPUT #n,adr,len	Block put.
BRUN "D:name"	Binary load and run file named - DOS option L.
DELETE "D:name"	Deletes the file named DOS option D
DIR	Disk directory – DOS option A.
GET n	Wait for key press and assign value to n. Same as OPEN #7,4,0,"K:" GET #7,N:CLOSE #7
a$=INKEY$	Returns last character typed
INPUT 'text',a	Prints text as prompt before asking for variable(s)
INPUT 'text';a$	Prints text as prompt before asking for variable(s)
LOCK "D:name"	Locks the file named - DOS option F
PUT n	Same as 'PRINT CHR$(n),'
RENAME "D:oldname,new"	Renames the file named - DOS option E.
UNLOCK "D:name"	Unlocks the file named - DOS option G
%GET #n,a	Get the number 'a' from device 'n' in 6-byte floating point format.
%PUT #n,a	Put the number 'a' to device 'n' in 6-byte FP format.

None of the disk commands, such as DELETE, ask for confirmation. You should therefore be very careful when doing this is direct mode. When using the commands from within a program you will have to provide all the normal user input checking plus any additional checks as shown in program 3

```
100 REM Program No. 3
120 DIM A$(41),B$(41),FILENAME$(15)
130 OPEN #42,8,0,"D:TEST" CLOSE:REM File supplied for deleting
140 REPEAT
150   ? "D to delete file"
160   ? "E to end":?
170   INPUT "Please enter option";A$
180   IF A$="D"
190     ? :INPUT "Please enter filename";FILENAME$
200     RET_LINE=260:TRAP #ERROR_ROUTINE
210     OPEN #42,4,0,FILENAME$:CLOSE
220     ? "Are you sure you want to delete ";FILENAME$
230     INPUT "Y or N";B$
240     IF B$="Y" THEN DELETE FILENAME$:? FILENAME$;" deleted"
250   ENDIF
260 UNTIL A$="E":REM Trap return line
270 END
280 # ERROR_ROUTINE
290 IF ERR=139
300   ? :? "Device malfunction."
310 ELSE
320   IF ERR=170
330     ? :? "File ";FILENAME$;" does not exist "
340   ELSE
350     ? :? "ERROR ";ERR " at line ";ERL
360   ENDIF
370 ENDIF
380 ? "<ESC><CNTL 2><ESC><CNTL 2>"
400 PAUSE 100
410 A$="
420 GOTO RET_LINE
```

The Graphic Commands.

The additional graphic commands found with Turbo Basic are

CIRCLE x,y,r	Plot a circle at x,y with radius r
CIRCLE x,y,r,r2	Plot an ellipse with horizontal radius r and vertical radius r2.
CLS	Clears the screen
CLS #6	Clears the screen opened in channel #6.
FCOLOR n	Sets fill colour

Continued from page 9

FILLTO x,y	Fill to the right while drawing a line from the current position to x,y.
PAINT x,y	Fills a closed shape as long as x,y is inside it.
TEXT x,y,a$	Print text stored in a$ at location x,y where the x,y co-ordinate defines the top left corner of the text to be printed.

If you type in the following program you will see most of these commands used to draw simple shapes on a graphics mode 7 screen.

```
10 REM $ROGRAM NUMBER 4
20 ------------------
30 GRAPHICS 7+16
40 FCOLOR #1 COLOR #1
50 CIRCLE 100,60,20
60 PAINT 100,60
70 TEXT #0,65,"SHAPE 1"
80 PAUSE 200
90 FCOLOR #3:COLOR #3
100 CIRCLE 40,40,20,10
110 FILLTO 30,40
120 TEXT 10,55,"SHAPE 2"
130 PAUSE 200
140 COLOR #2
150 LET I=0
160 DRAWTO 120,10
170 DRAWTO 120,35
180 DRAWTO 100,30
190 FILLTO 100,10
200 TEXT #2, 1,"Shape 3"
210 GOTO 210
```

Lets look at each of the shapes and explain the commands used. The first shape is a circle centred at 100,60 with a radius of 20. The circle outline is draw in colour 1 as defined by the COLOR command on line 40. The paint command on line 60 fills the circle also using colour 1, this time defined by the FCOLOR on line 40.

Shape 2 is also a circle but this time only partially filled. This is because the FILLTO command will only fill to the right, while drawing a line from its current location to x,y. This also shows this when the circle has been completed the current position of the cursor is at the top.

Shape 3 is a simple square drawn in colour 2 and filled with colour 3. Note that the line drawn by the FILLTO command takes the colour defined by COLOR and not the colour defined by FCOLOR.

All three examples are labeled using the TEXT command. This command uses the resolution of the current screen to produce each letter within an 8x8 square, following the ATARI character set. When using this command with text modes the COLOR command determines the character used to build each letter, while with graphic modes the COLOR command determines the colour used. Program 5 shows the effect of the TEXT command for each standard graphic mode available, while program 6 is a banner routine using the TEXT command.

```
100 REM Program No. 5
110 ------------------
120 DIM A$(62)
130 DO
140   FOR MODE=0 TO 15
150     A$=STR$(MODE)
160     GRAPHICS MODE
170     COLOR #1:IF MODE=10 THEN COLOR 5
180     TEXT #1,#1,A$
190     #AUSE 100
200   NEXT MODE
210 LOOP
```

Sound

The additional sound commands found within Turbo Basic are:

DSOUND n,f,d,v	Uses channel pairing to produce improved sound resolution, thus replacing the requirement of three m/c routines. 'n' can either be 0 or 1, while 'f' has a range of 0 to 65536.
DSOUND	Turns off all sounds.
SOUND	Turns off all sounds.

Remember to use DSOUND 0,0,0,0 to turn of the DSOUND and SOUND n,0,0,0 to turn of SOUND, otherwise strange things happen - type in the following program to see what I mean.

```
10 DSOUND 0,2400,0,8
20 PAUSE 30
30 SOUND 3,0,0,0
40 PAUSE 30
50 SOUND 1,0,0,0
```

Line 30 turns half the sound off while line 50 completes the job.

String Handling.

Of all the added features of Turbo Basic the following two functions (INSTR and UINSTR) are potentially the most interesting. With these functions, it will be possible to produce good quality text phasors for use in adventure games, fast search routines for database applications and simple banner routines as shown by program 6.

a=INSTR(x$,a$)	Returns relative location of start of string a$ within x$ (returns 0 if not found)
a=INSTR(x$,a$,i)	Same as INSTR but starts search at location i
a=UINSTR(x$,a$,)	Same as INSTR but does not distinguish between case or inverse characters.
a=UINSTR(x$,a$,i)	Same as UNTSTR but starts search at location i.

```
100 REM $ROGRAM No- 6
110 REM
120 GRAPHICS 7+ COLOR #1
130 $OKE 752,#1
140 DIM A$(132)
150 A$=" HELLO EVERY ONE this is a TEXT DEMO "
160 DO
```

```
170  CLS #6
180  A=$1 B=$0
190  WHILE A<LEN(A$)
200    B=INSTR(A$," ",A+$1)
210    FOR C=200 TO $3 STEP -$1
220      TEXT C,$0,A$(A+$1,B)
230    NEXT C
240    A=B
250  WEND
260 LOOP
270 END
```

You can also print double quotes (") in a text string by using two of them together instead of using CHR$(34), eg

```
10 A$=""Hello Colin, isn't it a nice day!""+ ? A$

prints "Hello Colin, isn't it a nice day!".
```

Error Handling, Programming Aids and De-bugging.

DUMP	Display all variables and values
DUMP devname	Dump to device name, eg Pr: or D:DUMP.001
TRACE	Trace program during execution - needs graphic mode zero window
TRACE - LIST n,	Turn trace mode off List program from line "n" to end.
TRAP #name	Traps to the line referenced by the label name
ERR	Value of last error number
ERL	Line last error occurred at.
DEL n,i	Delete lines n to i.
RENUM n,s,i	Re-number lines starting at line n, first number as i, increment as j. This function does not check for duplicate line numbers.
*B	Allows the break key to be trapped by the TRAP command.
*B-	Turns off special break key mode.

As well as these additional features, Turbo Basic provides error messages that are printed in English. The following new messages are involved with the new commands :

ERROR - 22 ?NEST	Loops not properly nested.
ERROR - 23 ?WHILE	WEND with no corresponding WHILE
ERROR - 24 ?REPEAT	UNTIL with no corresponding REPEAT
ERROR - 25 ?DO	LOOP with no corresponding DO
ERROR - 26 ?EXIT	EXIT is outside a loop
ERROR - 27 ?XPROC	Error executing procedure.
ERROR - 28 ?EXEC	ENDPROC with no corresponding PROC.
ERROR - 29 ?PROC	Procedure does not exist.
ERROR - 30 ?#	Label does not exist.

Note Due to a bug within Turbo Basic error codes 23 and 24 are reversed. eg, when you get ERROR 23 ? WHILE the error is actually no UNTIL without REPEAT

Arithmetic and Logic Functions.

HEX$(n)	Converts a to HEX string
DEC(a$)	Converts HEX string a$ to decimal
n DIV i	Integer quotient of n/i
n MOD i	Integer remainder of n/i
FRAC(a)	Fractional part of a
TRUNC(a)	Truncates fractional part of a
RAND(a)	Generate random number in the range 0 to a
$nnnn	Allows the use of hexadecimal numbers, within your program, eg. FOR I= $0600 TO $061E
n & i	8-bit boolean AND
n ! i	8-bit boolean OR
n EXOR i	8 bit EXclusive OR
RND	Parentheses are no longer needed at the end of this command, but it will still work if they are.

Constants.

Turbo Basic provides four constants - %0, %1, %2 and %3 - for the numbers 0 to 3 respectively. Using these constants within programs will save you 6 bytes for every occurrence. eg, X=1 requires 10 bytes, whereas X=%1 requires only 4 bytes.

Variables

In addition to these commands Turbo Basic allows you to use the *underscore* character within variable names, eg LIVES_LEFT Also the number of allowed variables has been increased to 255, see *Inside Turbo Basic* article for details how.

When transferring Atari Basic programs to Turbo Basic remember to check any clashes between variable names and the new command/operator names. If you do a LIST"D:TEMP",NEW, ENTER"D:TEMP" sequence, most of the clashes will produce errors. The rest you will have to find yourself.

Conclusion And Credits

That wraps up this introduction to Turbo Basic. It may be a bit thin in some areas but does give a very good feeling for the capabilities of the language. Because of the additional features, increased speed and user friendliness of the implementation of this Basic, 8:16 are providing a free disk containing Turbo Basic with all new subscriptions - see page 22 for details.

A lot of the statement definitions are from the documentation translated and compiled by the Western New York Atari Users Group. This group deserve a lot of credit for translating the German documentation into English, thus allowing us poor mortals a chance of using Turbo Basic to the fullest.

In future issues of 8:16 I will explore some of its features more fully, starting with string handling in the next issue.

Note Within these listings any characters that are under-lined should be typed in inverse video.

PD Documentation

As a service to our readers and because no-one else appears to be doing it, we can now provide photocopies of PD documentation. All the documents have been transferred to the Apple Macintosh, reformatted, spell checked and finally, laser printed.

The cost of each document is determined by the following formula :

Number of pages * 10 pence (photocopying charge) + 35 pence (postage and packaging)

Thus if you want a copy of Archive and DTE documentation the total cost would be {(5+1)*10 + 35} pence, which is a total of 95 pence.

The following documents are currently available :

Archive file ARC.DOC	5 pages	DTE (Dumb Terminal Emulator)	1 page
GEM Kermit Version 1.01	4 pages	GEM-Term Version 0.9	1 page
ICON Version 6 - Document TR 86-10a	12 pages*	Kermit V	1 page
Modem 7 Version 1.09	1 page	Neochrome Version 0.5	4 pages
Pallete	1 page	QT	4 pages
STWriter Manual Version 1.73	29 pages*	STWriter README file for Version 1.75	1 page*

* These documents have related documents which are still being processed.

Other documents still being processed include STWriter Version 2.0, ST Hack Version 1.03, Monopoly, New World, F-Command, ROCF, Small Talk and others.

If you [illegible] the cost of [illegible] please [illegible] The cost for this service is the same as quoted above, though we would appreciate a copy of the program the documents relate to, for our PD library.

BaPAUG News

Meeting Dates: There is a change of room for the meeting in May, the new venue being the Sharpe Room at Kinson Community Centre. The change is for one month only and is an experiment to see if the members would prefer this larger room, even though it is up one flight of steps. More details of any other changes will be provided if and when available.

Newsletters - 8:16: Just a reminder that articles for the next issue of 8.16 should arrive at my place by the 3rd of June, which just happens to be the date of our June meeting.

Newsletters - AAUG News, FaST, NUGGET, BAUD, ATTACK and SIGNEWS: The February 1988 and March 1988 issues of the AAUG News have arrived since the last issue of 8.16. This newsletter is produced by Ken Ward of the Norwich Atari User Group. Within the four pages of the February issue are a review of Microleague Wrestling from Microprose, press releases from Grand Slam Entertainment and Mirrorsoft and news items. The March issues has press releases from Frontier, Blue Ribbon Software, Hutch, Electronic Arts and Microprose along with news about the issue of several different Atari magazines (US and UK) and an article called *Current Trends & Future Machines*.

FaST is the newsletter from the Fast ST Basic User Group. I received a copy of Issue 3 on the last day of February so all our members should have seen it by now. Those of you who use Fast Basic should give it a look. I've put Fast Basic in quotes at the previous statement because although the newsletter is intended for the user of Fast Basic the tutorials on assembly language and file handling can be useful to other users. The only thing that lets this newsletter down is its poor quality of English.

Nugget is the newsletter for the Norwich User Group and is also produced by Ken Ward. I currently have copies of Issue 12 through to 22, 27 (September 1987) and 28 (November 1987). Items included within are tutorials on ST Basic and Atari 8-bit Basic, an Adventures column, reviews and off course all the Issue news.

I also have back issues of BAUD, Belfast Atari User Digest. This is the newsletter produced by Mark Hutchinson and Frankie Smyth of the Belfast Atari User Group. I do not know whether this newsletter is still running, but if it is I will try and establish a newsletter exchange.

ATTACK is the newsletter of the London Atari Club and is produced by Andrew Banner. I have a copy of Issue 3 which I skimmed at last years PCW show. It mainly consists of software reviews, letters and as the newsletter it self says "Useless Information."

SIGNEWS is the newsletter for the Special Interest Group Atari (SIGATARI) and is almost 100% produced by Glenn Leader. Of all the newsletters this one is unique as it is still produced upon an Atari 8-bit system. I have a copy of Issue 5 which contains articles on programming techniques, computer aided design, Eidersoft products along with reviews and news. We have a newsletter exchange established, so anyone interested in seeing it let me know.

If anyone would like to look at any of the above newsletters just give me a ring and I'll send them to you - as long as you promise to send them back (sorry but this applys to BaPAUG members only).

Colin

Pressure Cooker

(Activision - £9.95)

Short-Order-Sam needs help in completing his hamburger orders. Each order must be filled with the proper combination of tomatoes, onions, lettuce and cheese. With each order prepared you rush it to the wrapping room and on to the waiting customer only to find another order waiting.

This game 'Pressure Cooker' was Activision's answer to 'Burgertime', a game from Mattel for their intellivision system. Where 'Burgertime' was a top ten hit, 'Pressure Cooker' fell into the category - good game, though a few months too late - Mattel and already released 'Burgertime' for the VCS under the company name of M-Network. Even so, 'Pressure Cooker' is one of Activisions best works with superb graphics and even better game play.

The game starts in the kitchen, where you, S.O.S., try to build your hamburgers for the hungry customers. Sounds easy? I guess you've never worked in a kitchen then because the oven never stops cooking and you never have time for a break or quick cigarette. Attached to the oven is a conveyor belt where you see the bottom half of the bun and the hamburger itself coming towards you. To determine your first order you have to check your electronic order board. A maximum of three burgers per order appear on this board at any one time with each burger colour coded - red, green or blue. A tick registers under the condiments needed to fill each order. On the right side of your kitchen you see the food dispensers. No, you don't go there and take what you need. The condiments come flying towards you and not even in the right order- as you have to try your best and catch the flying tomatoes, onions, lettuce or cheese and place it on the burger. The dispenser throws out the top half of the bun when the proper combination of seasonings are placed on the hamburger. Flying condimentsmust collide with Sam's round stomach head on left or right sides to be caught. When they hit Sam anywhere else it a wasted. When you don't want a condiment you press the fire button and the condiment will bounce off Sam a stomach and back into the food dispenser.

When you have mastered this and correctly completed your order the electronic order board will flash. You now grab the hamburger and run down to the wrapping and sacking machine. This machine is supplied with three separate colour coded automatic wrappers. The colours are red, green and blue, corresponding to those on the electronic order board. Drop the right burger into the right machine and the completed orders are wrapped and sacked one at a time. Then run back to the kitchen where the next order is already rolling along waiting to be made up.

You can gain and lose points and you start with 50 performance points. High score is 99 performance points. You loose 1 point by wasting food and by placing the same type of seasoning on a burger. You also loose 5 points if you drop a hamburger on the wrong wrapping chute or miss the wrapping chute, a further 10 points are lost for every hamburger falling of the end of the conveyor belt. You earn performance points every 10,000 yeurts.

All in all a very colourful and fun to play type of game. Oh yes, a funky little tune plays continuously or only between waves by selecting the difficulty switch.

Ghostbusters

(Activision - £11.95)

Hey, anyone seen a ghost? I am pleased to announce some great news. Ghostbusters is available for the VCS. Based upon the film of the same name which was a and office hit in the USA and here in the United Kingdom (and recently shown on TV over the Christmas holidays), Ghostbusters sets you the challenge of earning money by hunting down and catching ghosts.

The bank has loaned you $5000 to start your ghostbusting organisation and unless you make enough money hunting ghosts its the bank that will close you down. To make life more difficult you have to obtain enough money before the ghosts dangerous energy reaches critical mass at 9999.

As with all the versions of Ghostbuster you have to choose your equipment first, but unfortunately due to the memory limitations of the VCS system you have an choice of vehicles. The outfits available are an image intensifier- a ghost vacuum, a and and or many as nine traps.

When you have finished fitting your vehicle, the map of the city appears and you can start the game proper by guiding your car from block to block capturing 'roamers'. When you reach a building where ghostly activities have been reported there are several steps you must follow in order to capture as many 'slimers' as possible, in the shortest possible time. For every 'slimer' that gets away you will lose valuable points. You must also be careful that your men do not get slimed.

Every so often you will lose control of your ghostbusters and some strange things will happen. This means that the menacing 'Marshmallow man' is approaching. He is the worst of your enemies and really and and must be destroyed (remember the scene at the and of the film).

The game is joystick and difficulty switch controlled and ends when the cities pk level reaches critical mass at 9999. At this stage you may or may not be able to continue, depending upon whether you have enough funds.

The game is a good conversion from the 8-bit machines and the graphics are top. Atari quality with the bit song being included. Off course there isno speech or this version, but you can't have everything.

NQO To DEGAS File Convertor

By Gary Player

This program allows the user to convert DEGAS PI1 (low resolution) format pictures to NQO format pictures, and vice versa. Pictures of the NQO format are used in the game DEFENDER OF THE CROWN from Mirrorsoft.

Operation of the program is by mouse and pull down menus.

Notes on the NQO format

NQO pictures are coded in two formats, namely type x and type 1. DEFENDER OF THE CROWN has only one picture of type x and thus is only a blank screen. I have included a routine to decode type x pictures just for completeness. The file format for type 1 pictures is..

Byte number	Value	Purpose
0	01	NQO type
1	xx	I do not know
2-33	xx	Colour palette
34-end	xx	Coded picture

The coded picture is decoded by

Get a byte
If byte is 0 or 255
then
  get next byte --this is the count
  put original byte on the screen count times
else
  put byte on screen

The decoded bytes are put on the screen using the following loop:

```
for x=0 to 159
  for y=0 to 199
    put byte at byte position x,y
  next y
next x
```

Program Breakdown

10	Call TERMINATE if program is stopped
30-70	Check for low resolution
80	Initialise space and variables
90-140	Main loop to detect menu selection
150	Procedure INITIALISE
190-210	Reserve space for pictures
220	Get current physical screen address of menu screen
230	Calculate physical address for picture screen
250 290	Save desktop colours
310-330	Set colours for menu screen
340-380	Save menu screen colors
400-410	Initialise input and output path specifications
430-520	Set menu bar
570	Procedure MENUE
580-750	Get menu selection and call required procedure
800	Procedure MENULOAD
810-840	Get path, filename and picture type to load
850 860	Ensure we know which picture type to load
870 880	Load the picture and hide mouse
890	Set Physical screen address to picture screen
900-960	Display picture
970-980	Wait for keypress or mouse button
990-1010	Show mouse, set menu colours, and set physical screen address to menu screen
1000	Procedure MENUSAVE
1090-1120	Get path, filename, and picture type to save
1130-1140	Ensure we know which picture type to save
1140-1210	Save picture in required format
1270	Procedure CHOOSEFILE
1280	Display file selector box, and choose file
1290-1460	Extract path, filename, and picture type from selection
1510	Procedure MAKETYPE
1520-1630	Ensure that choosentype$ contains a valid picture type
1680	Procedure SAVENQO
1690	Display please wait because it takes time to code the picture
1700	Type 1 format coding
1710-1730	Put colours before picture
1760-1980	Code picture
1990-2010	Save coded picture
2020	Clear please wait message
2070	Procedure SAVEDEGAS
2080	Low resolution degas format
2090-2110	Put colours before picture
2120-2140	Save screen memory
2190	Procedure SHOWNQO
2200	Get the type of nqo picture
2220	Start of colours
2230	Start of coded picture
2240	Set picture colours
2260 2300	Call required decode picture routine
2350	Procedure SHOWDEGAS
2360	Start of colours
2370	Start of picture
2380	Set picture colours
2400-2430	Copy picture to screen
2480	Procedure SHOWTYPE1
2490-2690	Decode picture to screen
2740	Procedure SHOWTYPEX
2750-2990	Decode picture to screen
3040	Procedure TERMINATE
3050	Set desktop colours

```
The   Program

  On Break Gosub Terminate
  '
  Res%=Xbios(4)
  If Res%<>2 Then
    Alert 3 "I work much better|in low resolution
!",1," Exit ",Dm%
    End
  Endif
  Gosub Initialise
  Menu Strip$()
  Openw 0
  On Menu  Gosub Manage
  Do
    Do Menu
  Loop
  '
  '
  '
Procedure Initialise
  Mamerve Fre(0)-&H10100
  Size%=&H1000
  Start%=Gemdos(&H48,L:Size%)   ! start of scd
scd gle
  Scrlgt%=Xbios(2)                    ! start of
window screen
  Start2%=(Start1%+&H8900) And &HFFFF0700   !
start of work picture
  '
  Initcolour$=""
  For I%=&HFFFF8240 To &HFFFF825E Step 2
    Initcolour$=Initcolour$+Mki$(Dpeek(I%))
  Next I%
  Initmolourt=Varptr(Initcolour$)
  '
  Setcolor 0 4,0,0
  Setcolor 3,7 7,7
  Setcolor 15,7,7,7
  Oldcolour$=""
  For I%=&HFFFF8240 To &HFFFF825E Step 2
    Oldcolour$=Oldcolour$+Mki$(Dpeek(I%))
  Next I%
  Oldcolourt=Varptr(Oldcolour$)
  '
  Inpath$="\*.*"
  Let Outpath$="\*.*"
  '
  Dim Strip$(20)
  For I=0 To 20
    Read Strip$(I)
    Exit If Strip$(I)="***"
  Next I
  Data OESK   Info ,————————
  Data 11111111111111111111,22222221222222222
1222,33333333333333333333
  Data 44444444444444444444,55555555555555555
5555,66666666666666666666,""
  Data  FILE    Load  ,  Save  ,""
  Data  QUIT  |  Desktop ,"".""."""
Return
  '
  '
  '
Procedure Menuse
  Choice%=Menu(0)
  If Strip$(Choice%)="  Info  "
    Alert 0,"NQO / OESAS file Converter
    by Gary Slmyer",1 "OK",Dummy%
  Else
    If Strip$(Choice%)="  Load  "
      Gosub Menuload
    Else
      If Strip$(Choice%)="  Save  "
        Gosub Menusave
      Else
        If Strip$(Choice%)=" Desktop "
          Void Xbios(6,L:Initcolour%)
          End
        Endif
      Endif
    Endif
  Endif
  Menu Off
Return
  '
  '
  '
Procedure Menuload
  Gosub Chooseflle(Inpath$,Infile$)
  If Choosentype$<>"" Then
    Inpath$=Choosenpath$
    Infile$=Choosenfile$
    Gosub Maketype
    If Choosentype$<>""
      Bload Choosenfand$,Start%
      Hidem
      Void Xbios(5 L:-1,L:Start%,-1)
      If Choosentype$="NQO"
        Gosub Showmqo
      Else
        If Choosentype$="PI1"
          Gosub Showdegas
        Endif
      Endif
      Repeat
      Until I Inp?(2) Or Mousek<>0
      Showm
      Void Xbios(5,L -1,L:Orlgt%,W -1)
      Void Xbios(6,I:Oldcolourt)
    Endif
  Endif
Return
  '
  '
Procedure Menusave
  Gosub Chooseflle(Outpath$,Outfile$)
  If Choosentype$<>"" Then
    Let Outpath$=Choosenpath$
    Let Outfile$=Choosenfile$
    Gosub Maketype
    If Choosentype$<>""
      '
      If Choosentype$="NQO"
        Gosub Savemqo
      Else
        Gosub Savedegas
      Endif
    Endif
  Endif
Return
  '
```

Continued on page 16

Continued from page 15

```
1260 '
1270 Procedure Choosefile(Searchpath$,Initial
file$)
1280  Fileselect Searchpath$ Initialfile$,Choo
sen fandp$
1290  If Chosenfandp$<>""
1300    Lengthofp%=Len(Chosenfandp$)
1310    '
1320    For I%=Lengthofp% Downto 1
1330      Exit If Mid$(Chosenfandp$,I%,1)="\"
1340    Next I%
1350    Chosenpath$=Left$(Chosenfandp$,I%)+"
\"
1360    Chosenfile$=Right$(Chosenfandp$,Lengt
hofp%-I%)
1370    '
1380    For I%=Lengthofp% Downto 1
1390      Exit If Mid$(Chosenfandp$,I%,1)="."
1400    Next I%
1410    Chosentype$=Right$(Chosenfandp$,Lengt
hofp%-I%)
1420  Else
1430    Chosenpath$=""
1440    Chosenfile$=""
1450    Chosentype$=""
1460  Endif
1470 Return
1480 '
1490 '
1500 '
1510 Procedure Maketype
1520  If Chosentype$<>"MQO" And Chosentype$<
>"PI1"
1530    Alert 2,"Which picture type    ",3,"MQO|
DEGAS|CANCEL",Button%
1540    If Button%=1 Then
1550      Chosentype$="MQO"
1560    Else
1570      If Button%=2 Then
1580        Chosentype$="PI1"
1590      Else
1600        Chosentype$=""
1610      Endif
1620    Endif
1630  Endif
1640 Return
1650 '
1660 '
1670 '
1680 Procedure Savemqo
1690  Print At(15,10);"Please wait"
1700  Bpoke Start0%,&H80          ! type 1
1710  For I%=0 To 31
1720    Poke Start0%+2+I%,Peek(Colour0+I%)! put
colours before coded pic
1730  Next I%
1740  Caddr1%=Start0%+34
1750  '
1760  For Yaddr1%=Start0% To Start0%+159
1770    '
1780    For Y%=Yaddr1% To Yaddr1%+199*160
Step 1 60
1790      '
1800      D1%=Peek(Y%)        ! get value
1810      Poke Caddr1%,D1%
1820      Inc Caddr1%
1830      If D1%=0 Or D1%=255 Then
1840        Cnt1%=0
1850        Repeat
1860          Inc Cnt1%
1870          Add Y%,160
1880          Exit If Y%>Xaddr1%+199*160
1890          V1%=Peek(Y%)
1900        Until V1%<>D1%
1910        Poke Caddr1%,Cnt1%
1920        Inc Caddr1%
1930        Sub Y%,160
1940      Endif
1950      '
1960    Next Y%
1970    '
1980  Next Xaddr1%
1990  Open "O",#1,Chosenfandp$
2000  Bput #1,Start0%,Caddr1%-Start0%
2010  Close #1
2020  Print At(15,10);"              "
2030 Return
2040 '
2050 '
2060 '
2070 Procedure Savedegas
2080  Dpoke Start0%+34,0          ! put low res
type before colours
2090  For I=0 To 31
2100    Poke Start0%-32+I,Peek(Colour0+I)  ! put
colours before pic
2110  Next I
2120  Open "O",#1,Chosenfandp$
2130  Bput #1,Start0%-34,32034
2140  Close #1
2150 Return
2160 '
2170 '
2180 '
2190 Procedure Showmqo
2200  Ptype%=Peek(Start0%)
2210  '
2220  Colour1=Start0%+2
2230  Caddr1%=Start0%+34
2240  Void Xbios(6,L:Colour1%)
2250  '
2260  If Ptype%=1 Then
2270    Gosub Showtype1
2280  Else
2290    Gosub Showtype2
2300  Endif
2310 Return
2320 '
2330 '
2340 '
2350 Procedure Showdegas
2360  Colour1=Start0%+2
2370  Caddr1%=Start0%+34
2380  Void Xbios(6,L:Colour1%)
2390  '
2400  For Yaddr1%=Start0% To Start0%+32000 Step 4
2410    Lpoke Saddr1%,Lpeek(Caddr1%)
2420    Add Caddr1%,4
2430  Next Saddr1%
2440 Return
2450 '
```

```
2480 '
2490 '
2500 Procedure Showtypes1
2510  For Xaddr1=Start%1 To Start%1+139
2520    '
2530     Cnt%=0
2540     For Yaddr1=Xaddr1 To Xaddr1+159*160 Step
160
2550       '
2560       If Cnt%=0 Then     ! no more 0s or 255s
2570         D%=Peek(Caddr1)    ! get value
2580         Inc Caddr1         ! move to next one
2590         If D%=0 Or D%=255 Then
2600           Cnt%=Peek(Caddr1)-1    ! set up 0/
255 count
2610           Inc Caddr1
2620         Endif
2630       Else
2640         Dec Cnt%       ! decrement 0/255 count
2650       Endif
2660       '
2670       Poke Yaddr1,D%     ! set byte on screen
2680       '
2690     Next Xaddr1
2700   Return
2710 '
2720 '
2730 '
2740 Procedure Showtypes
2750  For Xaddr1=Start%1 To Start%1+8 Step 2
2760    '
2770    Cnt%=0
2780    Let Addfactor1=1
2790    Screen%=Xaddr1
2800    For Byteinplane1=0 To 7999
2810      '
2820      If Cnt%=0 Then     ! no more 0s or 255s
2830        D%=Peek(Caddr1)    ! get value
2840        Inc Caddr1         ! move to next one
2850        If D%=0 Or D%=255 Then
2860          Cnt%=Peek(Caddr1)-1    ! set up 0/
255 count
2870          Inc Caddr1
2880        Endif
2890      Else
2900        Dec Cnt%       ! decrement 0/255 count
2910      Endif
2920      '
2930      Poke Screen% D%    ! set byte on screen
2940      Add Screen%,Addfactor1
2950      Let Addfactor1=Addfactor1 Xor 6
2960      '
2970    Next Byteinplane%
2980    '
2990  Next Xaddr1
3000 Return
3010 '
3020 '
3030 '
3040 Procedure Terminate
3050   Void Xbios(6,L:Oldcolours%)
3060   End
3070 Return
```

Microleague Wrestling

(Reviewed By Ken Ward)

Reproduced from ANIG News, February 1988

I don't think there can be many sports that haven't been simulated on the home computer. Certainly wrestling has been done before, but never like this.

Microleague Wrestling from **Microprose** is not your average joystick bashing simulation, in fact its not even just a wrestling simulation, as also a TV show! With digitised pictures, you go through pre-match backstage interviews with the wrestlers before going into the stadium where the MC introduces the opponents as they make their way to the ring. Even during the match you can't get away from the TV show image, as each move is accompanied by ringside commentaries.

On loading you select the match you want. On the match disk is Hulk Hogan vs. Randy "Macho Man" Savage (the second disk in the package contains Hulk Hogan vs. Paul "Mr Wonderful" Orndorff, and more disks are promised). You then select the input mode for each contestant, which can be either mouse, keyboard, joystick or computer, and the length of the match which can be either 10 minutes, 20 minutes or a 60 minute grudge match.

The pre-match interviews by Mean Gene Okerland are amusing the first time you see them but after that you are going to be glad the programmers allow you to skip this feature.

OK, so into the ring and on with the match!

At the sides of the screen you have a list of the moves available to each player. They are arranged in blocks in order of difficulty and each group has its own rating as to 'power boost' and 'damage'.

Each player selects his move, and then its up to the computer, which using the "Relative Dominance Factor" of each character (with a little bit of luck thrown in), decides which wrestler is successful. The move is then executed with a series of digitised pictures, and the ringside commentators have their say.

Meters below the action show the physical conditions of each wrestler. You have to keep an eye on this meter as its no good trying a 'hard' move if you are losing!

Hogan is the 'good guy' and his opponents are the 'baddies'. During the match you can press the key of the player (ie. H for Hogan, S for Savage) to get a 'special' move. For the 'goodie' Hogan, this will give him a boost from the crowd, but with the 'baddies' it gives them a dirty move! Its always more fun to be the baddie!!

The whole thing is no doubt an accurate representation of the American TV shows/matches, with all the characters thrown in. (Savage is accompanied to the ring by the lovely' Miss Elizabeth) and the programmers must be congratulated on getting the whole match into the computer (there are no disk accessings!) but I don't know if it will be a successful program over here the characters are unknown to us.

Personally, I would have preferred that the interviews and ringside commentaries had been left off altogether and the computer space used for more pictures of the action.

Its a great concept, and a good program to show off your ST with, but I don't think it has the staying power needed for a game of this price.

Inside Turbo Basic

By Colin Hunt

There are two ways of storing programs in memory. The first is in ASCII format which requires a lot of memory for relatively small programs. The second is the method used by Atari Basic and Turbo Basic and is called tokenising. This method is far more efficient, but why?

When you enter each line of your basic program the editor part of the language checks the line syntax and converts each element into a more compact format. For example, the line number can be in the range 0 to 32767 and when stored in ASCII requires 1 to 5 bytes. If you were to convert this range to HEX it would become 0 to 7FFF and only require 1 to 2 bytes (each digit in HEX only requires 4 bits of a binary word called a nybble). Thus to represent any basic line number only two bytes are required. Note that it would have been possible to represent line numbers in the range 0 to 65535 (FFFF). This is the simplest form of compression which just uses a different number base to store the line number.

After the line number basic expects to find a command such as PRINT, IF or CIRCLE. Instead of storing this as typed the editor substitutes a single byte number which represents the command entered. This number is called a TOKEN. Table 1 lists all the available commands, operators and functions along with their token values. As well as these your basic program is built up of variables, numbers and strings. In order to distinguish between these forms the editor follows some strict rules. Basic expects a line number first, followed by a command and then if required an operator or variable number. Of course the operator may inform the interpreter that a numeric constant or string is to follow.

Commands are assigned token numbers in the range 0 to 55 for Atari Basic and in the range 0 to 100 in Turbo Basic, thus giving an additional 45 commands. Examining Table 1 you can therefore see the additional commands added.

Operators have a range of 14 in 60, while functions have a range of 61 to 84 within Atari Basic. The additional operators and functions within Turbo Basic have been allocated the numbers 0, 13 and 85 to 109.

With Atari Basic variables are given tokens in the range 128 to 255 with the name being stored in the variable name table. This standard is also supported by Turbo Basic, but in order to accommodate the use of procedure names and labels, a variable prefix of 0 is used to indicate a variable in the range 0 to 127. These variable numbers are allocated after the first 128, with the variable name also being stored with the variable name table, eg <0><0> is the 129th variable. If you want a quick look at the variable name table then run the following program. The inverse characters indicate the end of a variable name. Of course when listing your programs they are display as normal characters.

```
32000 FOR I=DPEEK(130) TO DPEEK(132)
32001   A=PEEK(I) ? A;
32002   IF A>128 THEN ?:PAUSE 20
32003 NEXT I
```

When deciding upon variable names within Turbo Basic, remember that line label and procedure names may be unique but can have the same name as normal variables. The following program is an example

```
10 J=99:I=10
20 CIRCLEA=200
30 ? CIRCLEA
40 J=J+1 : ? "J=";J,
50 GOTO CIRCLEA
60 STOP
200 I=I+1 : ? "I=";I
210 GOTO CIRCLEA
```

Numbers are stored as a 6 byte floating point preceded by the operator 14 (0E HEX). Byte 1 is the exponent and sign with the next five bytes storing the nanebet as Binary Coded Decimal (BCD). Nanebers preceded by the operator 13 (0D HEX) are displayed as HEX when listing your program, but are still stored in the above format. Strings are preceded by the operator 15 (0F HEX) and are stored as typed.

In order to see how all this works line look at a simple basic line

```
10 LET COUNT=COUNT+1 : IF COUNT>10 THEN GOTO FINISH
```

This is stored as follows (values shown as decimal):

<10><0>	Line number
<27>	Line offset
<11>	Statement offset
<6>	The token for the LET command
<142>	The token for the variable COUNT
<45>	The token for the arithmetic assign operator
<142>	The token for the variable COUNT
<37>	The token for the numeric + operator
<103>	The token used to represent %1
<20>	End of statement
<23>	Statement offset
<7>	The token for the IF command
<142>	The token for the variable COUNT
<33>	The token for the numeric > operator
<14>	Numeric constant is to follow
<64><16><0> <0><0><0>	The numeric constant '10'
<27>	The token for THEN
<27>	Statement offset
<92>	The token for GOTO command
<143>	The token for the variable FINISH
<22>	End of line operator

The line offset is equal to the number of bytes in the line, thus the address of the first byte in the next line is equal the address of the first byte in the current line plus the line offset.

The statement offset is the offset of the first byte of the next statement from the first byte of the line, thus the last statement offset is equal to the line offset. To find the address of the first line in your program look at memory locations 136 and 137 eg PROGRAM_ADDRESS=DPEEK(136).

If you look at this breakdown carefully you will see that the THEN in the IF statement also acts as an end of statement marker

That should be enough information to understand the fundamentals of storing basic programs within memory, but before moving on try de-tokenising the following examples (answers on page 22):

1 <100><0><19><9><7><140><32><103><27><13><80><143><20><19><54><140><45><103><22>
2. <232><3><7><7><93><143><22>

Got them correct! No then I would suggest you re-read this article or give me a sing (use the User Group File for my phone number) Also within this issue of 8:16 is an article entitled 'An Introduction To Turbo Basic' This article gives more details about the use and structure of the additional commands and the changes to the standard Atari Basic commands and should be read along side this one.

Dec	Hex	Command
0	00	REM
1	01	DATA
2	02	INPUT
3	03	COLOR
4	04	LIST
5	05	ENTER
6	06	LET
7	07	IF
8	08	FOR
9	09	NEXT
10	0A	GOTO
11	0B	GO TO
12	0C	GOSUB
13	0D	TRAP
14	0E	BYE
15	0F	CONT
16	10	COM
17	11	CLOSE
18	12	CLR
19	13	DEC
20	14	DIM
21	15	END
22	16	NEW
23	17	OPEN
24	18	LOAD
25	19	SAVE
26	1A	STATUS
27	1B	NOTE
28	1C	POINT
29	1D	XIO
30	1E	ON
31	1F	POKE
32	20	PRINT
33	21	RAD
34	22	READ
35	23	RESTORE
36	24	RETURN
37	25	RUN
38	26	STOP
39	27	POP
40	28	?
41	29	GET
42	2A	PUT
43	2B	GRAPHICS
44	2C	PLOT
45	2D	POSITION
46	2E	DOS
47	2F	DRAWTO
48	30	SETCOLOR
49	31	LOCATE
50	32	SOUND
51	33	LPRINT
52	34	CSAVE
53	35	CLOAD
54	36	(Implied 'LET')
55	37	ERROR -
56	38	DEGREE
57	39	MOVE
58	3A	-MOVE
59	3B	"F
60	3C	PRESENT
61	3D	UNTIL
62	3E	WHILE
63	3F	WEND
64	40	ELSE
65	41	ENDIF
66	42	EPUT
67	43	EGET
68	44	FILLTO
69	45	DO
70	46	LOOP
71	47	EXIT
72	48	DIR
73	49	LOCK
74	4A	UNLOCK
75	4B	RENAME
76	4C	DELETE
77	4D	PAUSE
78	4E	TIME$=
79	4F	PROC
80	50	ESEC
81	51	ENDPROC
82	52	PCOLOR
83	53	*L
84	54	- -
85	55	RENUM
86	56	DEL
87	57	DUMP
88	58	TRACE
89	59	TEXT
90	5A	ELOAD
91	5B	BUUN
92	5C	GO@
93	5D	@
94	5E	"B
95	5F	PAINT
96	60	CLS
97	61	SMOOMD
98	62	CIRCLE
99	63	@PUT
100	64	@GET

Dec	Hex	Operator/Function
0	00	(Variable, $ to 127]
13	0D	(Numeric Constant - HEX]
14	0E	(Numeric Constant - DEC]
15	0F	(String Constant]
16	10	(Not Used]
17	11	(Not Used]
18	12	,
19	13	$
20	14	:
21	15	;
22	16	(End Of Line]
23	17	GOTO
24	18	GOSUB
25	19	TO
26	1A	STEP
27	1B	THEN
28	1C	#
29	1D	<= (Numeric]
30	1E	<> (Numeric]
31	1F	>= (Numeric]
32	20	< (Numeric]
33	21	> (Numeric]
34	22	= (Numeric]
35	23	^ (Numeric]
36	24	* (Numeric]
37	25	+ (Numeric]
38	26	- (Numeric]
39	27	/ (Numeric]
40	28	NOT
41	29	OR
42	2A	AND
43	2B	(
44	2C	)
45	2D	= (Arithmetic Assign]
46	2E	= (String Assign]
47	2F	<= (String]
48	30	<> (String]
49	31	>= (String]
50	32	< (String]
51	33	> (String]
52	34	= (String]
53	35	+ (Unary]
54	36	- (Unary]
55	37	((String]
56	38	((Array]
57	39	((DIM Array]
58	3A	((Function]
59	3B	((DIM String]
60	3C	, (Array Comma]
61	3D	STR$
62	3E	CHR$
63	3F	USR
64	40	ASC
65	41	VAL

Dec	Hex	Operator/ Function
66	42	LEN
67	43	ADR
68	44	ATN
69	45	COS
70	46	PEEK
71	47	SIN
72	48	RND
73	49	FRE
74	4A	EXP
75	4B	LOG
76	4C	CLOG
77	4D	SQR
78	4E	SGN
79	4F	ABS
80	50	INT
81	51	PADDLE
82	52	STICK
83	53	PTRIG
84	54	STRIG
85	55	HEX$
86	56	4
87	57	5
88	58	INSTR
89	59	INKEY$
90	5A	ERR
91	5B	HEX$
92	5C	DEC
93	5D	HEX
94	5E	FRAC
95	5F	TIME$
96	60	TIME
97	61	MOD
98	62	ESEC
99	63	END
100	64	RAND
101	65	TRUNC
102	66	%5 [Constant]
103	67	%1 [Constant]
102	68	%2 [Constant]
105	69	%3 [Constant]
106	6A	GO@
107	6B	UNISTR
108	6C	ERR
109	6D	REL

The ST Explored - Part 2

By Colin Hunt

In the last issue of 8-16 I explained the meanings behind most of the values within the DESKTOP.INF file. As no one responded to my request for corrections or information about the gaps I decided to go to my local computer shop, plough through some books and find out for myself - on more of this trial and error approach. I therefore present the gaps:

Gap #1

#a000000

This line defines the RS232 configurations. I really should have found this considering all the file transfers between my ST and the Mac I've been doing. The format is as follows:

#arstuvw where :

r = Duplex
- 0 = Full
- 1 = Half

s = Link speed
- 0 = 9600 Baud
- 1 = 4800
- 2 = 1200
- 3 = 300

t = Parity setting
- 0 = None
- 1 = Odd
- 2 = Even

u = Bits per character
- 0 = 8
- 1 = 7
- 2 = 6
- 3 = 5

v = XON/XOFF and RTS/CTS
- 0 = None
- 1 = Xon
- 2 = RTS
- 3 = Both

w = Baud rate
- 0 = 19200
- 1 = 9600
- 2 = 4800
- 3 = 2400
- 4 = 1200
- 5 = 600
- 6 = 300
- 7 = 150
- 8 = 134.5
- 9 = 110
- A = 75
- B = 50

Gap #2.

#b0000000

This line defines the printer configuration. Each bit corresponds directly to each of the options within the Install Printer accessory. These options (from left to right) are:

Printer type	0 = Dot matrix	1 = Daisy
Colour	0 = Black & White	1 = Colour
Pixels/line	0 = 1280	1 = 960
Quality	0 = Draft	1 = Final
Printer port	0 = Printer	1 = Modem
Paper type	0 = Feed	1 = Single

When using an Epson printer you will have to set the pixels per line to 960 if you want a full screen dump when using the ALT HELP keys.

Once again if any one has any more information on the DESKTOP.INF file I will be very interested in hearing from you.

Product Update

Frontier Software will soon be distributing the new ***Supra Megadrives*** here in the UK. These drive units are designed to fix within the Mega ST unit and are available in 20, 30 and 40 Megabyte varieties. The cost for the 20MB version is £589.95, 30MB - £799.95, while the 40MB price has yet to be announced. Also available from ***Frontier Software*** is ***Supramodem 2400*** - a 2400 baud modem which retails at £200. The modem is very compact (about one third the size of the Hayes SmartModem 2400) and supports asynchronous operations at 300, 1200 and 2400. It is 100% Hayes compatible and supports Bell 103/212A, CCITT V22 and V22 bis protocols. To use this modem with the Atari 8-bit range you will require a RS-232 interface such as Amt's 850, or ***P.R. Connection*** which is also available from ***Frontier Software***.

Magnetic Media are shortly to release an add-on graphic board called ***ParSec*** for £499+VAT. The unit consists of a 32-bit, 48MHz processor with a display resolution of 1024x1024 with a pallette of 16,777,216 colours, with 256 colours per line being possible.

Glentop have now available a book on GFA Basic costing £15.95 or £19.00 if purchased with the disk containing all the example routines.

Digital Research have published a guide to all the GEM based software, called ***The GEM Software Directory***, priced at £2.99.

Capital Software Developments Limited have a range of products available for the ST range of computers. These include ST Mega RAM boards which provide blitter chip sockets, the ST Fast Chip which improves disk access times, an EPROM programmer, ST-Commodore 64 transfer cable, a Digital Sound Sampler and a Digital vision and sound digitizer.

Software Roundup

ST

Electronic Arts are to release ***Lords Of Conquest*** on the ST. This award winning strategy game can be compared to RISK the board game, but takes advantage of the computers power to and greater game depth and variety. Also available from ***Electronic Arts*** is ***Test Drive***, while ***Titus / Entertainment International*** have a car game out called ***Crazy Cars***. ***Activision*** are to release ***Predator*** by ***System 3*** for £19.95. The game is based upon the film of the same name. ***Mirrorsoft*** have released ***Tetris*** for £19.99 – the first computer game from Russia. ***The Edge*** has released ***Warlock*** for the ST, this being a conversion from the successful Amstrad version. ***Rainbird Software*** will soon have available ***Carrier Command***, a solid 3D simulation. Do you enjoy watching Mickey Mouse on TV? Yes then play the game, currently being developed by ***Gremlin Graphics***. The game is on within Disney Castle where four evil witches under the command of the Ogre King have captured Merlin's magic wand. ***Mirrorsoft*** are to release the second ***Cinemaware Corporation*** product called ***Rocket Ranger***. If required we will make any necessary changes to the NQO to Degas converter within this issue. Another Amstrad to ST conversion is ***Get Dexter II*** from ***Infogrames***. A company called ***Budgie*** have released four titles into the Public Domain. The games are ***Damonoid Blitz 88*** and a dual disk with ***Football 88*** and ***Othello***. Each disc costs £2.95. Another boxing simulation is now available called ***Seconds Out***. This one is from ***Tynesoft*** and costs £19.95. ***Home Publisher*** by ***HI TEC*** available through ***Robtek*** is not as it may seem when reading the adverts within the computer press. Firstly, the 30 different fonts are only available for the cover line headline, not for any other text. It will only allow up to 30 lines of text to be inserted into a single window, of which the page can have 10. The program is supplied on a double sided disk and requires 1Meg of memory and a monochrome monitor to function – non of which is mentioned within it's advert. ***Computer Concepts Calligrapher*** has now had all of the bugs removed. Registered user are receiving the updated version free of charge.

HiSoft have released Version 2 of ***Saved!*** This program now supports a most proof non disk and more needed functions within the desk accessory.

Frontier Software are now supplying ***Personal Pascal*** by ***OSS*** at £59.95.

Digita International are about to release the spreadsheet ***Digicalc***, which has been converted from the PC version. The spreadsheet is fully menu and command driven and supports 512 rows by 52 columns, with each column width being individually adjustable. Another spreadsheet recently available for the ST is ***Easy Calc*** from ***Roklek***, though this version also includes a calculator and notepad. ***MasterPlan*** from ***SDL*** is a GEM based spreadsheet for £99.95 which can read ***Lotus 1-2-3*** and ***VIP Professional*** data files.

A new printer utility called ***Powerprint ST*** has have released by ***Alpha Systems***. It can print DEGAS and Neochrome pictures at a new but of different ways.

Precision Software have released ***Superbase Professional*** for the ST.

I-AFL the first all machine portable language is now available for the ST.

For those of you interested in 3D modelling you should check out two packages now available from ***Electric Distribution***. The first is from the ***Antic Software Catalog*** and is called ***Genesis***. This requires the 1040ST and enables you to create and manipulate accurate full colour molecular models. The Stereo Tek 3D glasses can also be used to produce true 3D. The glasses cost £149 while ***Genesis*** costs £79.95. The second package is ***Cyber Control*** an animation package for use with ***3D Cyber Studio***.

Kuma have released a graphics package called ***K-Rikki***. It includes many features and appears to be a good buy at £19.95. By the way the name is derived from the authors name – Riccardo Billiteri.

Music Construction Set from ***Electronic Arts*** is now available for the ST at £24.95.

Wargame Construction Set from ***SSI*** is now available on the ST, though none of the problems with the 8-bit version seem to have been rectified.

8-bit

Software Express have some good quality business programs available for the 8-bit range of Ataris. The titles currently available are ***FynCalc*** and ***FynFile***, both retailing at £49.95. A second company also producing serious software are ***Solar Software***, who have just completed development of a desktop publisher and circuit board CAD program.

Who say's Atari are not supporting the 8-bit range? You do. Well ***Atari*** have just re-released ***Archon***, ***Ballblazer***, ***Rescue On Fractalus***, ***Blue Max*** and ***Fight Night*** all on ROM for £14.99. Also available on cassette is ***Thunderfox*** and a compilation featuring ***Centipede***, ***Star Raiders***, ***Missile Command***, ***Tennis*** and ***Typo Attack***. The cassettes are £4.99 each. ***Mandarin*** have released ***Time and Magik*** by ***Level 9*** for £14.95 on cassette and disk.

Nubulous the 3D rotational scrolling game from ***Hewson*** is to be converted for the Atari 8-bit. ***Atari Corporation*** will shortly be releasing the game on cassette, disk and ROM.

Frontier software, as ***ICD's*** distributors in the UK can now supply the ***OSS*** range of products, as the ***OSS*** range has recently have taken over by ***ICD***. The range includes the ***Action!*** cartridge (£49.95), ***Action! Toolkit*** disk (£19.95), ***Mac/65*** cartridge (£49.95), ***Mac/65 Toolkit*** Disk (£19.95), ***Basic XL*** Cartridge (£39.95), ***Basic XL Toolkit*** disk (£19.95). ***Basic XE*** cartridge (£49.95) and ***Writer's Tool*** Disk (£49.95). ***OSS*** mean the people responsible for the original Atari Basic and both ***Basic XL*** and ***Basic XE*** are 100% Atari Basic compatible, while offering more commands and an improved execution speed. ***Action*** is quite simply the fastest high level language available for the Atari 8-bit and is the most popular alternative to basic.

Blue Ribbon Software have re-released the snooker simulation called ***Steve Davis Snooker***. It is available on cassette for £1.99 and disk for £4.99.

User Group File

If you would like your User Group to be included within our User Group file, please send the following information to 8:16 (address as page 1) :

The groups name.
The contacts name, address and telephone number.
The number of group members (Atari members if a mixed club)
Membership Fees
Meeting place (if any) and dates of meetings (eg. 1st Friday each month)
Name of any newsletter and release dates.
Special interests within the group
and finally a copy of the map with a mark showing us where you live.

Future issues of 8:16 will list the information supplied by each group. The map will be used to indicate where the groups are situated. As you see, [illegible] out where the rest of these user groups are.

Name: Bournemouth and Poole Atari User Group (BaPAUG)
Contact: Colin Hunt– 0202 677895
Meetings: 1st Friday every month at Kinson Community Centre, Pelhams, Kinson.
Newsletter: 8:16 (Cover dates February, May, August and November)
Interests: Hardware and Software development.

Name – London Atari Computer Enthusiast (LACE)
Contact Glenn Leader
143 Richmond Road, Leytonstone, London E11 4BT

Name Norwich User Group
Contact Ken Ward 0603 661149
45 Colebum Road Lakenham Norwich NR1 2NZ
Meetings 1st Sunday of each month. Contact Ken for time and place.
Newsletter NUGGET

[illegible]
Contact: Glenn Leader.
143 Richmond Road, Leytonstone, London E11 4BT.
Newsletter: SIG NEWS

Info

The programs

All 8-bit programs within 8:16 are written using either Turbo Basic or with the Assembler Editor cartridge. Turbo Basic can be purchased from several different public domain libraries, including Page 6 (0785 213928). who supply a printed manual and additional programs on the disk. Alternatively you can obtain Turbo Basic and all the 8-bit programs within issues 1 and 2 of 8:16 direct from us for £1.50.

The ST program within this issue is written in GFA Basic and can be obtained from 8:16 by sending a blank disc and 50p to cover handling and P&P

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8:16 can be supplied on a regular basis at a subscription rate of £3 for 4 issues. Please clearly state your name and address and the issue number the subscription is to commence with

Subscription Offer

To encourage the use of Turbo Basic, 8:16 are offering a free disk to all new 8-bit subscribers. The disk contains Turbo Basic (interpreter + compiler) DOS 2.5 (including all the support module) and some additional Turbo Basic programs. If you want the disk lets us know when you subscribe.

Commercial Advertisement:

Rate – £10 Full page
£5 Half page
Contact Colin (0202 – 677895 evenings) for further details.

50 – 60 – 50

50–60–50 is a short routine written in 68000 assembler which switches the television vertical sync frequency between 50 and 60Hz. This is very useful for users with multi-sync TV's, as the display at 60Hz is a lot steadier and easier on the eye. The routine was written by Gary Player using Hisoft's DevPac ST and should be compiled as a .PRG file.

```
clr.l     -(sp)          ; supe
rviser mode on
move.w    #$20,-(sp)
trap      #1

eori.b    #2 $ff820a     ; swap
50/60 Hz vertical sync

clr.l     -(sp)
trap      #1
```

Inside Turbo Basic Answers

```
1 IBC IF A<&1 THEN EXEC ROUTI
  NE:A=&1

2 1003 @ VAR
```


Norwich
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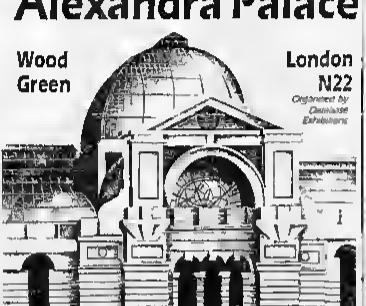
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